MARINE RECREATIONAL INFORMATION PROGRAM

FY Project Plan

Continued development and testing of dual-frame surveys of fishing effort

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1. Overview

1.1. Background

In response to recommendations provided by the National Research Council (NRC), as well as mandates included in the Magnuson-Steven's Reauthorization Act (MSRA), NOAA Fisheries is developing fishing effort surveys that sample from databases of licensed or registered saltwater anglers. To compensate for gaps in survey coverage resulting from exemptions to licensure requirements, MRIP has designed dual-frame telephone and mail surveys that ingrate angler license frames with household telephone or address frames. Dual-frame approaches provide measurable improvements in survey coverage but are not without their own limitations. Specifically, the dual-frame telephone survey design suffers from poor response rates, as well as an inability to match component sample frames, which is a critical aspect of dual-frame designs and necessary for assessing the completeness of license frames. The dual-frame mail survey design offers improved response rates, the ability to weight sample data to adjust for nonresponse bias, and more accurate means to identify overlapping frame units, but may not produce estimates in a timely enough fashion to satisfy the needs of fishery managers.

1.2. Project Description

To address the limitations of current recreational fishing surveys, we will continue to develop and test dual-frame designs that sample from angler license databases and household address frames. Previous MRIP pilot studies have demonstrated that attributes of the component sample frames (addresses) provide an effective means to match the frames and subsequently produce dual-frame estimates covering all anglers. We propose to develop and test several design alternatives to address concerns about timeliness and continue to improve response rates, data quality and efficiency. First, we will test a mixed-mode design that includes both telephone and mail data collection of fishing effort information. Specifically, the design will include; 1) telephone and mail surveys of licensed anglers to estimate saltwater fishing effort by licensed anglers, and 2) two-phase surveys of residential addresses (address-based sampling or ABS) to estimate saltwater fishing by both licensed and unlicensed (exempted) anglers. As with the license frame, ABS sampling will include both mail and telephone data collection. In addition to assessing the feasibility of a mixed-mode design in terms of timeliness and cost, the study will be designed to measure the impact of data collection mode on survey response, coverage and measurement, as well as test assumptions about the behaviors of licensed and unlicensed anglers in terms of fishing trip characteristics (e.g. fishing mode, areas fished, access type, geographic distribution, etc.).

Other aspects of the design will build upon the dual-frame mail survey design that has been tested in NC and LA. Specifically, the proposed design will incorporate the most effective contact options (e.g. regular mail, priority mail, IVR telephone reminders) in terms of response rates and timeliness. In addition, the distribution of mail survey questionnaires will begin prior to the end of

each wave (in the current pilot study, questionnaires are not mailed until after the wave has ended). Finally, the study will compare effort estimates derived from questionnaires returned or interviews completed at different stages of data collection to assess the feasibility of producing preliminary estimates using early survey returns.

In addition to testing various design aspects of fishing effort surveys, the pilot study will provide valuable information about the completeness/coverage (% of trips taken by licensed anglers) and quality (response rates, % non-working numbers, % bad addresses) of state license frames. This information is critical for assessing the feasibility of using angler license database as sampling frames for future recreational fishing surveys.

1.3. Objectives

1. Develop and test dual-frame survey designs to improve the accuracy and timeliness of recreational fishing effort estimates.
2. Assess benefits and limitiations of different data collection modes (telephone and mail).
3. Assess the completeness and quality of state saltwater license frames.

1.4. References

2. Methodology

2.1. Methodology

The proposed pilot study will test a dual-frame, mixed-mode data collection design. The pilot study will utilize a split-sample design to assess the effect of data collection mode on cost, timeliness, and survey response, coverage and measurement. The component sampling approaches, as well as the dual-frame estimation design are described below.

License Frame Sampling: Databases of state saltwater licensees will be utilized as sampling frames for conducting surveys of recreational fishing effort. Ongoing Angler License Directory Surveys (ALDS) in North Carolina, Louisiana and Washington have demonstrated both the utility and limitations of saltwater license databases for collecting recreational fishing data. The license-frame survey will utilize a stratified design with strata defined by state and geographic proximity to the coast. Within each state, strata will include coastal resident anglers, non-coastal resident anglers and non-resident anglers.

Each wave, a sample of anglers will be selected to participate in a survey designed to collect information about recent recreational fishing trips. Sample will be randomly assigned to telephone or mail survey treatment groups. Initially, the reference period for each wave will be a two-month period, consistent with current recreational fishing surveys. Information collected in the survey will be used to estimate fishing effort by state and fishing mode for licensed anglers.

Address-Based Sampling (ABS): The ABS sample frame will include all residential addresses serviced by the United States Postal Service within the study area. Like the license-frame survey component, the ABS survey will utilize a stratified design with strata defined by geographic proximity to the coast. For the sake of efficiency, the ABS will be limited to the specific states included in the study area. ABS sampling will utilize a two-phase design. In the first phase, a sample of residential addresses will receive a mail questionnaire to identify likely saltwater anglers and collect telephone numbers. In the second phase, a follow-up mail survey or telephone interview will be adminsitered to anglers identified in the first phase to collect detailed fishing effort data. Second-phase sample will be randomly assigned to telephone or mail survey treatments.

Survey procedures for both license frame and ABS sampling will build upon the results of previous MRIP pilot studies and include multiple mailings of survey questionnaires, as well as reminder/thank you postcard contacts. Information collected in the ABS component will be used to estimate total fishing effort by state and mode, as well as the ratio of total fishing effort to fishing effort by licensed anglers.

2.2. Regions

2.3. Geographic Coverage

South Atlantic Subregion (NC-FL)

2.4. Temporal Coverage

8 months (4 waves)

2.5. Frequency

Bi-monthly (2-month waves)

2.6. Unit of Analysis

Effort, participation

2.7. Collection Mode

Telephone and mail

3. Communications Plan

3.1. Internal

The project team will communicate via conference calls and email. At a minimum, conference calls will be conducted on a monthly bases, with more frequent communication as needed.

Survey datasets will be posted to the MRIP collaboration tool. Survey materials developed for the project and the results of data analyses will be distributed among project team members via email.

3.2. External

Project updates will be provided to the MRIP Operations Team on a monthly basis.

A final report will be provided to the Operations Team at the conclusion of the project. The report will document survey methods and results, and provide recommendations for implementation and/or additional testing. The project team will provide preliminary results and recommendations whenever possible.

Project results will be presented at relevant fisheries and/or statistics meetings, as well as in statistics and fisheries journals.

4. Assumptions and Constraints

4.1. New Data

Yes

4.2. Track Costs

4.3. Funding Vehicle

4.4. Data Resources

State saltwater license databases for NC, SC, GA and FL for each wave. The project team assumes that angler license frames will be available through the National Saltwater Angler Registry and that license sample frames will include updated information for each reference wave. New frames will be needed three weeks before the end of each wave.

4.5. Other Resources

4.6. Regulations

4.7. Other

5. Risk

5.1. Project Risk

Table 1: Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach

6. Final Deliverables

6.1. Additional Reports

Preliminary Analysis Report

6.2. New Data Sets

Effort Survey Datasets, Effort Estimate Datasets

6.3. New Systems

7. Project Leadership

7.1. Project Leader and Members

Table 2: Project Members

Project Role	Name	Organization	Title

8. Project Estimates

8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

#	Schedule Description	Planned Start	Planned Finish	Prerequisites	Milestones

8.2. Cost Estimates

Table 4: Cost Estimates

Project Need	Cost Description	Date Needed	Estimated Cost
TOTAL			$0.00